

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (currently amended) A method comprising:
applying a flux on a substrate having solder bumps, the flux including at least a solvent and a water soluble monomer or a water soluble polymer;
placing a die on the substrate; and
reflowing the die in a reflow device at a reflow temperature, the reflow temperature having a temperature profile including an increasing region, an approximately constant region, and a decreasing region, the increasing region including temperature higher than melting point of the polymer and forming polymer liquid to become molten polymer flux, the approximately constant region forming solder joints, the decreasing region solidifying the solder joints and the molten polymer flux liquid to re-distribute stress caused by thermal mismatch between the die and the substrate.
2. (original) The method of claim 1 wherein applying the flux comprises:
applying the flux including the water soluble polymer being one of a polyacrylic acid, a polyacrylamide, a polyvinyl alcohol, a starch, and a cellulose.
3. (original) The method of claim 1 wherein applying the flux comprises:
applying the flux including at least an organic solvent and the water soluble monomer.
4. (original) The method of claim 1 wherein applying the flux comprises:
applying the flux including at least an organic solvent and the water soluble polymer.
5. (currently amended) The method of claim 1 wherein reflowing the die comprises:
vaporizing the solvent at an increasing reflow temperature;
melting the polymer into the polymer liquid; and
removing metal oxide from the solder bumps.

6. (currently amended) The method of claim 5 wherein reflowing the die further comprises:

melting the solder bumps;
forming the solder joints from the melted solder bumps;
solidifying the solder joints at a decreasing reflow temperature; and
solidifying the polymer liquid to redistribute the stress.

7. (original) The method of claim 1 wherein reflowing the die comprises:

vaporizing the solvent at an increasing reflow temperature;
reacting the monomer to form solid polymer;
melting the solid polymer into polymer liquid; and
removing metal oxide from the solder bumps.

8. (previously presented) The method of claim 7 wherein reflowing the die further comprises:

melting the solder bumps;
forming solder joints from the melted solder bumps;
solidifying the solder joints at a decreasing reflow temperature; and
solidifying the polymer liquid.

9. (previously presented) The method of claim 1 further comprising:

de-fluxing the die to remove polymer residue; and
dispensing an underfill material into a gap between the die and the substrate.

10. (original) The method of claim 9 wherein de-fluxing comprises:

dissolving the polymer residue by hot water.

11-30. (canceled)